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ABSTRACT

Once a computer system has been established, and the capabilities exist for the kind of data manipulation which could produce either a book catalog, with as many access points as seem desirable, or catalog cards if desired, the next question to be resolved is whether a book catalog is an economically feasible substitute for catalog cards. The advantages and disadvantages of both card catalog and book catalogs are considered. It is concluded that it is not economically sound to plan on a book catalog unless many copies are required, or the unusually high per-copy costs for a small number can be justified. (Author/MM)

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BOOK CATALOGS

A Survey of the Literature on Costs

Helen J. Waldron

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[Rand Corporation]

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26p.
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P-4694 Book Catalogs: A Survey of the Literature on Costs. H. J. Waldron. May 1971.

Compares costs of producing a library catalog in book form rather than as a card file, assuming availability of appropriate computer service and a machine-readable data base. One of the few clearcut facts that consistently emerged in this survey of over 50 sources is that phototypesetting is cheaper, as well as more readable, than computer printout. Only 14 articles, 5 reports, and 3 books provided any cost data; the 12 selected for extensive analysis were not fully comparable, and most were incomplete. It seems clear, however, that book catalogs are economically sound only when widely distributed. Unlike card catalogs, additional copies cost little. However, book catalogs cannot be kept as current. Either new editions must constantly reprint old material, or a basic volume must be followed by supplements that quickly become inconvenient to search. An annotated reference list is appended. 26 pp. (MW)

BOOK CATALOGS

A Survey of the Literature on Costs

INTRODUCTION

Objective and Limitations of the Study

To determine by a search of the literature describing other people's experience the probability of book catalogs being a feasible substitute for catalog cards in our own library. The costs of converting existing files of catalog cards are not considered here since another entire study could be devoted to that subject.

Assumptions

(1) That RAND would at some point in the future have a machine-readable data base of bibliographical citations, plus the availability of one or more means to produce book catalogs automatically; i.e., the creation of a computer tape for driving a line printer, an electronic photocomposition machine, or a COM.

(2) That RAND's catalog-data-base computer program would have the capability of producing data in either card or book format, or both. Film would also be a definite possibility, but is not considered in this survey.

Comparison of Catalog Features

Expectedly, and quite apart from any economic considerations, there are both advantages and disadvantages to book catalogs as well as to card catalogs. In the following summary, the advantages of a book catalog seem to out-weigh the disadvantages, but each library would, of course, have to appraise carefully its own determining factors.

Card Catalogs

Advantages

1. Constantly up to date
2. Extremely flexible
3. Wear well and resist mutilation
4. Changes easy to make
5. User is less likely to err in copying information
6. User removes only small portion of catalog from reach of others

Disadvantages

1. Multiple copies are impractical
2. Only one title may be seen at a time
3. Take up large amount of space
4. Awkward for several people to use one tray simultaneously
5. If a tray becomes completely disarranged, major refiling job is required
6. Filing and revising time becomes a major cost factor as catalog grows

Book Catalogs

Advantages

1. Mobility
2. Capability for multiple copies & wide dissemination (including the availability of desk copies for staff)
3. Visual superiority, i.e., browseability
4. Suitability for photocopying
5. Physical ease of access
6. Release of professional & clerical time used in filing & withdrawing catalog cards
7. Simplified process for correction at time of error or after proof
8. Clue to scholarly resources in other libraries (if widely distributed)
9. Key to total library resources of the institution, or of library systems, if multi-system
10. Easier maintenance
11. Comfort in using
12. Convenience of being able to scan a page when unsure of appropriate subject heading or spelling of an entry

Disadvantages

1. Obsolescence (out of date as soon as printed)
2. Need for checking several alphabets when catalog includes updates
3. High cost of production
4. Inflexibility (changes & deletions cannot be instantaneous)
5. Normal wear & tear is severe
6. Volumes are heavy and awkward to handle
7. Errors in transcribing or copying are too easy to make

Once a computer system has been established (and the rationale for that decision is not a part of this treatise) and the capability exists for the kind of data manipulation which could produce either a book catalog, with as many access points as seem desirable, or catalog cards if desired, the next question to be resolved is whether a book catalog is an economically feasible substitute for catalog cards.

I selected two categories (specifications, and cost) to look for in the literature I was reading.

Out of a large group of references scanned for useful information on the subject of book catalogs, 14 periodical articles, five reports and three books (see References, Part A) actually provided some cost data. One of the reports (ref. no. 20, Part A) discussed estimates only for a conversion project, and although it contains estimated costs on "reduction, printing, and binding" for 300 sets of book catalogs of retrospective holdings, those figures are not included here. Unfortunately, as many a librarian has noted (both orally and in writing) although comparative cost studies would be most desirable to have, what exists is "fraught with certain difficulties. In the first place, few librarians would group elementary cost operations in precisely the same way. One library may consider a particular element of cost as part of the acquisitions operation and a second as a part of the cataloging operation; a third may ignore it altogether, or include it in the burden or overhead cost. Nor is this mere capriciousness on the part of members of the library community. Library operations not only differ from one another, but they

also change with time".[1]

No statement could be more applicable in seeking some comparative cost data on the subject of book catalogs. In not one single case was there comparable information available from all the 12 sources which ultimately were selected for extensive analysis. The following list summarizes 11 subsets of information, five on specifications and six on cost.

Specifications (See Table 1 for details)

(1) Number of entries in the book catalog

(what information was available consisted of estimates, with one exception: Bromberg and Dubinsky's report specified 8,625 subject entries; and 4,650 entries each, in the author and title catalogs).

(2) Number of pages

(this information -- where given -- was much more accurate, but in four of 12 cases, there was no information at all and in only one case, was the number of columns noted).

(3) Number of copies printed and distributed

(three-quarters, i.e., 8 out of 12, gave this figure)

(4) Frequency of publication

(provided in all but one case; bi-monthly and quarterly are the most popular; cumulation frequencies vary widely)

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[1] Dolby & Forsyth, Journal of Library Automation, vol. 2, p. 219 (Ref. No. 6, Part A).

(5) Size of product

(sometimes the actual measurements of a volume; more often the percentage of page reduction; in only one case were all specifications included, even to the size of type)

Costs (See Table 2 for details)

(1) Input

(this could, and did, include almost anything -- from the method, i.e., keypunch; to the content, i.e., full bibliographic citation; to the cost -- which also varied: (1) total, (2) per entry, and even (3) per title)

(2) Programming

(very little information; sometimes total cost but no breakdown within the total; in one case, a cost-per-entry for manual file maintenance

(3) Computer charges

(again a wide variation: unexplained costs; contract costs; one total figure which included systems analysis, programming keypunch and processing; another which included edit lists, and test catalogs as well as the final product; another which included photocomposition cost per entry)

(4) Reproduction

(broken out in about half the cases -- see item number 5 below)

(5) Binding

(it has to be assumed that this cost was included as a part of reproduction costs; in only one case was it shown as a separate cost)

(6) Cost per copy

(infrequent -- either the authors did not know, or it was not an important item in their calculations; in some cases, this figure had to be derived by the author of this paper from other information given)

Reproduction and Binding

The real question in looking at a book catalog as a substitute for a card catalog revolves around the costs of reproducing n number of copies and of binding those copies for use, since it is assumed for purposes of this study that input costs, computer programming costs, and computer operating time will already have been justified and accepted.

Dolby,[2] in his study points out that "composition costs are relatively independent of format and type size", though obviously this will depend to some extent on the composition device.

His remarks on the advantages of choosing type faces that will reduce the total amount of space occupied by the catalog data are important to note for anyone seriously considering publication of a book catalog. However, just "maximizing the character density per square inch" does not provide an answer to the problem of the continuing repetition of increasing amounts of the total input which faces any library when it begins cumulating its records.

Unquestionably, the cost of producing a cumulative book catalog is bound to rise constantly with the continuing increase in its contents.

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[2] Dolby, p.72 (Ref. No. 7, Part A).

And the discouraging aspect here is the necessity for duplicating -- with no change -- an ever-increasing proportion of the total content of the book catalog. The alternative seems to be to stop cumulating at some predetermined point (every five years, e.g.), and simply begin printing over again for each ensuing n-year period.[3] Or, if the data is of sufficiently large magnitude, a program of staggered reproduction can be undertaken, but obviously, neither of these is an ideal solution, either from a cost standpoint, or for that matter, from that of the user since both alternatives build in delays in the currency of the information.

Another major conclusion which has to be drawn from even the most cursory investigation of cost factors is that book catalogs can provide economic benefits only when there is a demonstrated need for a reasonably wide distribution, such as to the branches of a public library or to numerous special collections located on one or more campuses. In such cases, not only do the per-copy costs drop but there would be obviously manpower cost-savings in eliminating the already existing labor required to maintain card catalogs (i.e., filing, revising, withdrawing, shifting, replacing, etc.) in each location subsidiary to the main library. In contrast, although it might be convenient at RAND to distribute copies of a book catalog to a number of locations, it is by no means obligatory to publish more than the one copy to be used in the library. That one copy would patently require a considerable outlay of funds, as would whatever n number was determined upon (logical candidates would be all the Document

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[3] Ref. No. 1, Part A, p. 118. Gregzis notes that ONULP's reproductive printing cost is "four times higher for the book form catalog than for unit cards". This comparison is a first-year one only, and obviously the "reproductive printing cost of the book form catalog would progressively increase from year to year".

Control Centers, the subject libraries, New York Office, and Washington Office, and more than one location within the library itself for perhaps a total of 18 to 20) since the cost of publishing a book catalog, whether in one or several copies would be higher than costs of manually creating and maintaining a card catalog at RAND.

Even the Dolby study, (ref. nos. 6&7, Part A) which is excellent and one of the few available with really comparative cost data, does not actually deal with the problem under consideration here.

The authors devote two paragraphs to the question of "Book and Card Catalogs: Some Relative Advantages" and conclude only that "Card catalogs are large and costly and there are few savings over the original cost in producing a second copy. Reproducing books after the first copy is relatively inexpensive. Libraries with many branches, or a decentralized set of users, will provide better service with book catalogs. The added cost of maintaining more than a few files is heavy with cards and light with books". These conclusions are hardly to be quarreled with, but Dolby et al, freely admit in their cost comparison that the cost of printing the catalog is not included. However, in an attempt to provide some limited guidance, they do offer the following statement "...one may make a quick calculation based on the production of a single book catalog using a standard upper-and lower-case print chain. At present commercially available prices this would cost between 35¢ and 50¢ per 10,000 characters, or approximately 9¢ per entry for the full form entries[4] and 5¢ per entry for the short form entries[5] (assuming four complete listings for author, title, subject, and class number listings)".[6]

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[4]Defined as "425 characters per entry"

[5]Defined as "250 characters per entry"

[6]Op cit., p.236

Comparative methods

As to method, studies seem to indicate that photocomposition offers significant savings, but again the number of copies required is going to affect cost decisions. For example, two of the 20 references cited are part of a series of studies undertaken by the LARC organization "to determine the cost and advantages of several systems designs using a variety of machine hardware". The first of these (published in 1968)[7] concerned itself with book catalog production and in particular the preparation of the production cost of two different output approaches:

(1) A phototypeset output approach using computer-generated tape to control the Photon Zip Model number 901;

(2) A printout approach utilizing an upper and lower case print chain in a Honeywell-200 Computer

LARC asked four commercial firms "active in producing computerized book catalogs for librarians" to cooperate in its study. Each worked independently within the following parameters:

Delivery schedule

1st annual master	(25,000 titles)	October
5 supplements	(3,000 titles each)	at bi-monthly intervals
2nd annual master	(40,000 titles)	October

Number of copies and size

250 copies, 8 1/2" x 11" pages

[7] LARC Report No. 13: (Ref. no. 15, Part A)

Not surprisingly, the experiment demonstrated that for all of the participating commercial firms "greater economy could be realized through the medium of phototypesetting". A summary of the reasons for the differential are listed below:

The differences in cost between computer printout and typeset print become important in large catalogs and in catalogs printed in many copies.

"Costs are approximately the same for computer manipulations, explosion of information, arrangement, and even for the preparation of the final tapes to run the photon or the print chain. The printing of the page copy from a photon, or other phototypesetting equipment, however, averages about 60% of the number of pages that result from the computer print chain. In catalogs for large collections the average number of pages is even less. Typeset print is proportional and the diversity of the print on the page is much higher -- not as much white space on the page".[8]

Tables 3 through 5 show the per-copy differences between the two systems, and Table 5 illustrates the differences in printing costs alone. Note that in spite of differences among the four companies, in every case, there is a significant difference in favor of the photocomposition method. But note also that we are here discussing 250 copies and not 10. In addition, only reproduction and printing costs are under discussion, since the computer manipulation of the data is the same, regardless of output method or output cost.

The logical conclusion to all of this, and one anticipated in advance of the survey, is quite clear:

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[8] Op cit., p. 13-9

(1) It is not economically sound to plan on a book catalog unless

(a) Many copies are required by your organization, or

(b) You can justify unusually high per-copy costs for a small number

The RAND Library's plans for the product of its catalog data base system were tailored to the production of cards, not book catalogs. As it happened, we had no real choice to make, as unexpected reductions in the Corporation's budget in early 1970 forced cancellation or deferment of many cherished projects, including a machine-readable data base for Library holdings in book and report literature.

TABLE 1

Specifications 1

	Dept. of Interior Portland (Ref.2)	Philadelphia (Ref.3)	Childers, et. al Baltimore Co. PL. (Ref.5) Basic	Childers, et. al Baltimore Co. PL. (Ref.5) Suppl.	Stanford Universities (Ref. 11) Basic J1'65-Ag'66	Stanford Universities (Ref. 11) Suppl. Sep'66-Ag'67	Baltimore Co. PL (Ref.12)	Orange Co. (Ref.13)
1) Number of entries	Subj.=8,625; author and title=4,650 each	102,000	56,000	2-yr. suppl. 20,700	25,000	41,000	8-10,000/yr.	90,000 (+ 30,000 transfer) i.e., 120,000
2) Number of pages	195 for subj. (60 books / page); 75 each for author & title	3,092	3 vols. (author, title, subj.) + juvenile		400/vol.; (3 vols for subj. cat.; 4 for author & title)	530/vol.; (5 vols of authors & title); 480/ vol. (4 vols of subject).		100 entries page, 1,800 pages
3) Number of copies		175	250 cops.		50 (7 vol)	75 (9 vol)		400
4) Frequency		Monthly suppl. @ $500-$4,000 each		10-bimonthly cum. suppl.; quarterly suppl. for juvenile		quarterly suppl.	Bi-monthly; total update bi-annually	Quarterly suppl. Annual cum. reprinted every 3 yrs.
5) Size	8 1/2x11, 128 lines/ page @ 8 lines/inch. 62 1/2% reduction. 60 books/ page	5 vols.			68% reduction			60% reduction

TABLE 1 CON'T -2-

	LARC #13 (Independent study of photo-typset composition) (Ref.15)	LAPC #7 (Independent study of Vari-type Card-writer) (Ref.16)	Los Angeles Co. PL. (Ref.17)	Montgomery Co. (Ref.18)	LARC #14 (ROCAPPI, Springfield, Pa. - commercial) (Ref.19)	Boeing (Ref.21)
1) Number of entries	25,000 for master cat. + 5 cum. bi-monthly suppl. @ 3,000 titles ea.	10,000/yr.	9,000/yr. (5-6 vols.)	75,800 (80¢/book processed)	30,000 basic; + quarterly suppl. @ 1,000 titles/ month	
2) Number of pages	1,257 + 2,880				1,200 (3 cols.)	1,600
3) Number of copies	250	100 sets			200	75
4) Frequency	5 cum. bi-monthly	Author + title cum. monthly; subj. & juvenile cum. bi-monthly	Annual cumulation	Bi-monthly $600-$1,000 total update annually	Cum. quarterly & annually	Quarterly suppl.; total update annually
5) Size	8 1/2x11		9"x13"x3/4"		8 1/2"x2 1/2" (3 cols./ page) (8 pt. type)	

TABLE 2

Costs

	Dept. of Interior Portland (Ref.2)	Philadelphia (Ref.3)	Childers, et. al. Baltimore Co. PL. (Ref.5) Basic	Stanford Universities (Ref.11) Basic J1'65-Ag'66	Stanford Universities (Ref.11) Suppl Sep'66-Ag'67	Baltimore Co. PL. (Ref.12)	Orange Co. (Ref.13)
		Sequential Camera					
1) Input	80¢/entry**		$9.57/title (labor & supply costs)	$16,400 40¢/title	$6,400*		$34,290
2) Programming				$5,945			
Total	$3,500 (systems anal., programming, keypunch, input, machine processing, time, & overhead)			$22,345	$6,400*		$34,290
3) Computer charges			Contract costs: Input, page production, & binding = $31,651 Operational costs = $13,856***	$9,610 (edit lists, test cat., annual cat.)	$11,070* (edit lists, suppl., annual catalog)		
4) Reproduction binding				$5,115 1,600 (350 vols.) $16,325	$5,270* 1,990* (includes $300 for binders) (675 vols) $18,330*		$22,000 350 $56,640
5) Cost per copy		$16,80/vol. 84.00/set $14,685	$180/set or $60/vol.** $45,507	$110.50/set**	$244/set**		$141.60**
				$38,670	$18,330	$25-$40,000/yr. depending on suppl. only, or basic with suppl.	

* Estimated costs only, the basic costs are actual

** Derived from data provided in report

*** This figure is not after subtracting $6,721 derived from the sale of card catalog cabinets and of the book catalogs themselves.

TABLE 2 CON'T -2-

	LARC #13 Phototypset Composition (Ref.15)	LARC #7 (Varityper Cardwriter) (Ref.16)	Los Angeles Co. PL. (Ref.17)	Montgomery Co. (Ref.18)	LARC #14 (Ref.19)	Boeing (Ref.21)
1) Input				$59,351 (salaries, supplies, equipment, machine rental)	$1.10 /entry	
2) Programming	$4,500-$8,400					
Total						
3) Computer charges	$10,400-$12,175		5-yr costs for branch catalog processing		$33,000	$1,500
4) Reproduction binding	Ph & printing $29,800-$40,000			$748 for paper & cover stock $550		
Total	$45,100-$57,175	$54,000 - $69,747.30	$562,500	$60,649	$33,000 + $19,635 annually	$1,500
5) Cost per copy					Reprint costs each time are 80¢/entry	$20.00

TABLE 3

PHOTOCOMPOSITION AND CATALOG PRINTING[1]

Comparison of dollar costs

	Firm #1	Firm #2	Firm #3	Firm #4
Photocomposition costs	$18,000	$14,000	$12,340	$14,500
Catalog printing costs	22,000	18,400	18,900	15,300
Total costs	$40,000	$32,400	$31,240	$29,800
Per-copy cost for 7 issues[2]	$ 160	$129.60	$124.96	$119.20

TABLE 4

COMPUTER-PRODUCED PAGE PRINT-OUTS PLUS CATALOG PRINTING[1]

Comparison of dollar costs

Catalog printing costs	$34,560	$34,790	$35,800	$33,543
Computer-produced page masters	345	3,485	7,005	4,673
Total costs	$34,905	$38,275	$42,805	$38,216
Per-copy cost for 7 issues	$139.62	$153.10	$171.22	$152.86

[1]Basic data is drawn from Reference #15 (Appendix A). Per-copy costs are derived costs.

[2]Two masters (25,000 entries in first and 40,000 in second) plus five cumulative supplements of 3,000 entries per issue, issued between the two masters.

T A B L E 5

DIFFERENCES IN PRINTING COSTS ALONE[1]

	Firm #1	Firm #2	Firm #3	Firm #4
Computer-produced page print-outs	$34,560	$34,790	$35,800	$33,543
Photocomposition costs	22,000	18,400	18,900	15,300
Total differential	$12,560	$16,390	$16,900	$18,243
Per-copy differential for 7 issues, i.e., per-copy savings with photocomposition process.	$ 50.24	$ 65.56	$ 67.60	$ 72.97

ANNOTATED REFERENCES

PART A: BOOK CATALOG COSTS

1) Bregzis, Ritvers, "The ONULP Bibliographic Control System; an evaluation, IN Jenkins, Frances B., ed., Proceedings of the 1965 Clinic on Library Applications of Data Processing, Champaign, Illinois, 1966, p. 112-140.

Describes the Ontario New Universities Library Project established in 1963 to compile basic college library collections for five new academic institutions in the Province of Ontario. Includes some comments about costs related to data processing operations and the production of book catalogs.

2) Bromberg, Erik, "Preparation of a Book Catalog", Portland, Oregon, U.S. Department of the Interior, June 1964, 11p.

In two parts. Part I details library procedures at the U.S. Department of the Interior in Portland, Oregon, and Part II details the computer procedures. Cost figures are for systems analysis, programming, keypunching, machine processing of the initial library catalog master copy, and overhead.

3) Brown, Margaret C., "A Book Catalog at Work", Library Resources & Technical Services, vol. 9, no. 4, Fall 1964, p. 349-358.

Answers to the five most frequently asked questions during the two years the Free Library of Philadelphia was developing its book catalog program -- including "How much does it cost?"

4) Cartwright, Kelley L., and Ralph M. Shoffner, "Catalogs in Book Form: A research study of their implications for the California State Library and the California Union Catalog, with a design for their implementation", [Berkeley, California] Institute of Library Research, University of California, January 1967, 69p. + illus.

5) Childers, Thomas, et al, "Book Catalog and Card Catalog: a cost and service study", Towson, Maryland, Baltimore County Public Library, March 1967, 45p. + appendix

Description of a study made under Council on Library Resources funding to examine

"1. An estimate of the cost of maintenance of the card catalog as previously constituted in the library, in comparison with the basic and annual costs of the book catalog;
2. Analysis of costs of rendering various services as they have been affected by the adoption of the book catalog; and
3. A consideration of the functions and services eliminated or added, to which no valid cost figure could be ascribed

6) Dolby, J.L., and Forsyth, V.J., "An Analysis of Cost Factors in Maintaining and Updating Card Catalogs", Journal of Library Automation, vol. 2, no. 4, December 1969, p. 218-241.

"Report concentrates on the problems of cost element definition and on the reporting of as many comparable sources as possible..." Data are presented in tables that show comparative costs of cataloging, card processing, conversion, and manual and computerized processing, as well as card catalog costs.

7) Dolby, J.L., V.J. Forsyth, and H.L. Besnikoff, "An Evaluation of the Utility and Cost of Computerized Library Catalogs", Washington, D.C. Bureau of Research, Office of Education, July 1968. (ED-022 517).

An abridged version of this paper is cited in 6 above.

8) Hayes, Robert M. and Ralph M. Shoffner, "The Economics of Book Catalog Production", [Los Angeles, California] Advanced Information Systems Division, Hughes Dynamics, Inc., 31 May 1964, 110p.

9) Heinritz, Fred, "Book versus Card Catalog Costs", Library Resources & Technical Services, vol. 7, no. 3, Summer 1963, p. 229-236.

Cost survey of The Engineering Index, "which produced its intellectual outputs both on 3" x 5" cards and in book form", divided into production costs, distribution costs and subscriber use costs, i.e., filing, storage and equipment costs

10) Henderson, James W., & Rosenthal, Joseph A., eds., "Library Catalogs: Their Preservation and Maintenance by Photographic and Automated Techniques". Cambridge, Mass., The M.I.T. Press, 1968. (M.I.T. Report No. 14) 267p.

A study of the Research Libraries of the New York Public Library under a CLR grant dealing with both the retrospective catalog and the prospective catalog. Contains some good solid cost data -- not only on book catalogs themselves, but on computer systems and photographic techniques for producing same.

11) Johnson, Richard D., "A Book Catalog at Stanford", Journal of Library Automation, vol. 1, no. 1, March 1968, p. 13-49.

Describes a system for producing a book catalog for an undergraduate library. "Described are the conversion of cataloging information into machine readable form, the machine record produced, the computer programs employed, and printing of the catalog. Cost factors involved in the preparation of the catalog are summarized". Tables include one on comparison of estimated and actual costs.

12) Kieffer, Paula, "The Baltimore County Public Library Book Catalog", Library Resources & Technical Services, vol. 10, no. 2, Spring 1966, p. 133-141.

A computerized book catalog produced under contract by a commercial firm for the Baltimore County Public Library. Cost information is skeletal only.

13) Kountz, John C., "Cost Comparison of Computer versus Manual Catalog Maintenance", Journal of Library Automation, vol. 1, no. 3, Sept. 1968, p. 159-177.

A method for comparing manual catalog maintenance and computer assisted maintenance. The author warns his readers that the cost per entry developed here was calculated for an operating system serving a relatively large number of branches, and consequently is not as applicable to smaller organizations. Neither does the method developed encompass amortization of the capital outlay required for system designs, procedures and forms, or the design, coding and debugging of programs.

14) Kozumplik, W.A.,& Lange, R.T., "A COM-Produced Library Catalog", Information & Records Management, vol. 4, no. 4, April/May 1970, p. 45-46.

Cost data consists of a comparison between Copyflo process and multilith printing process to produce 1 copy or to produce 20 copies -- for library administrators whose clientele object to using a microfilm catalog.

15) Library Automation Research & Consulting (LARC), "Phototypeset Output versus Computer Print-Out in Book Catalog Production", Report no. 13, The LARC Reports, vol. 1, issue 2, July 1968, 13p.

Four commercial companies participated in this experiment. Cost data consist of programming and systems development, computer production of approximately 40,000 titles, catalog printing -- and photocomposition where appropriate.

16) Library Automation Research & Consulting (LARC), "Comparative Approaches to Library Book Catalog Production, Report No. 7, The LARC Reports, vol. 1, issue 1, April 1968, 7p.

Differences in cost relate not only to the method of production but also to the fullness of bibliographic content and the extent of cooperative effort (i.e., the number of participating libraries).

17) MacQuarrie, Catherine, "The Metamorphosis of the Book Catalogs", Library Resources & Technical Services, vol. 8, no. 4, Fall 1964, p. 370-378.

Description of Los Angeles County Public Library's change from upper case IBM 407 printout to catalogs produced by Compos-o-list machines and high speed cameras. Cost data reflects these two systems, but in the aggregate only.

18) Moreland, George B., "Montgomery County Book Catalog", Library Resources & Technical Services, vol. 8, no. 4, p. 379-390.

Advantages of a book catalog. Comparative costs are provided between a card catalog operation and, the following year, a book catalog operation. Detailed figures on staff salaries, and supplies and equipment required for processing.

19) Rocappi, Inc., "Mechanized Procedures of Rocappi, Inc.", Report no. 14, The LARC Reports, vol. 1, issue 2, July 1968, 28p.

Description of the Chester County, Pennsylvania, Union Catalog begins on p. 14-15 and includes a section on "Cost Elements in the Production of a Computerized Book Catalog" in which a base figure of 82.5% of the initial per-entry cost is derived for a cumulative supplement consisting of an equal number of new and old entries.

20) State University of New York at Buffalo. University Libraries. "Proposal for Conversion of Shelf List Bibliographic Information to Machine Readable Form, and Production of Book Indexes to Shelf List", by Gerald J. Lazorick, Hugh Atkinson, and John Herling, July 1966, 13p.

Proposal includes estimated costs of publishing and initial conversion of both partial bibliographic entries and full bibliographic entries, plus estimated yearly costs of the two possibilities for the first five years of system operation.

21) Weinstein, Edward A., and Spry, Joan, "Boeing CLIP: Computer Produced and Maintained Printed Book Catalogs", American Documentation, vol. 15, no. 3, July 1964, p. 185-190.

Input is via Friden Flexowriter and output via IBM 7094 computer. Costs include only computer time and printing costs.

22) Wilkinson, W.A., "A Machine-Produced Book Catalog: Why, How and What Next?", Special Libraries, vol. 54, no. 3, March 1963.

Creation of a union catalog in multiple copies was accomplished by punching, duplicating, and final printout on an IBM Document Writer and offset masters from an IBM 1403 Printer. Cost figures incorporate ten elements, (such as ordering cataloging, cost of L.C. cards, etc.) and each figure includes salaries, materials and building expense.

PART B: BOOK CATALOGS (No Cost Information)

1) ALA-RTSD Book Catalogs Committee, "Book Form Catalogs: A Listing Compiled from Questionnaires Submitted to the Book Catalogs Directory Subcommittee, ALA, 1968", Library Resources & Technical Services, vol. 14, no. 3, Summer 1970, p. 341-354.

   A preliminary review of the tabulated returns listing number of returns, scope (type of library materials covered), year of first issue, and method of production for 57 academic and research libraries, 36 public libraries, 4 school libraries, and 37 special libraries. Some attempt to discern patterns.

2) Balfour, Frederick M., "Conversion of Bibliographic Information to Machine Readable Form Using On-line Computer Terminals", Journal of Library Automation, vol. 1, no. 4, December 1968, p. 217-226.

   Detailed report (including good cost data) on conversion only of the shelf list of the Libraries of the State University of New York at Buffalo, using on-line terminals (IBM DATA TEXT)

3) Becker, Joseph, "Automation Preparation of Book Catalogs", ALA Bulletin, vol. 58, no. 8, September 1964, p. 714-718.

   Brief but clear description of three methods commonly used in early 1960's for producing a printed book catalog: (1) by punched cards and a line printer, (2) by card-actuated cameras and photocomposition; and (3) by computer.

4) Black, Donald V., "Creation of Computer Input in an Expanded Character Set", Journal of Library Automation, vol. 1, no. 2, June 1968, p. 110-120.

   Details on costs and production rates only for converting bibliographic data to machine-readable format by keypunching. Includes some background on reasons for selection of this method.

5) Blackburn, Robert H., "On Producing Catalogues in Book Form for Five Libraries at Once", In Canadian Library Association, Library Automation Projects; a collection of papers by Canadian librarians, Ottawa, 1965, p. 20-22, (Occasional paper no. 48).

   A progress report written in 1964 -- of historical interest only.

6) Chapin, Richard E., and Pretzer, Dale H., "Comparative Costs of Converting Shelf List Records to Machine Readable Form", Journal of Library Automation, vol. 1, no. 1, March 1968, p. 66-74.

   Comparative costs of three methods of conversion: keypunching, paper-tape typewriting, and optical scanning by a service bureau, resulting from an experiment at the Michigan State University Library.

7) DeGennaro, Richard, "A Computer-Produced Shelf List", College & Research Libraries, vol. 26, no. 4, July 1965, p. 311-315, 353.

Description of a pilot program to convert a few of the most active classes of the Harvard University shelf-lists to machine-readable form, by keypunching.

8) Fasana, Paul J., "Determining the Cost of Library Automation", ALA Bulletin, vol. 61, no. 6, June 1967, p. 656-661.

Good description of the kinds of costs which must be considered; i.e., design costs, machine costs, programming costs, input-output costs, conversion costs, implementation costs, building costs, personnel costs, and supplies, as well as assessment of same.

9) Griffin, Marjorie, "Printed Book Catalogs", Special Libraries, vol. 51, no. 9, November 1960, p. 496-9.

Review of unique features and objectives of book catalogs, plus a survey of systems operational at that time for producing book catalogs.

10) Harris, Ira, "Reader Aspects of Book Catalogs", Library Resources & Technical Services, vol. 8, no. 4, Fall 1964, p. 391-398.

Survey of some of the literature.

11) Henderson, John D., "The Book Catalogs of the Los Angeles County Public Library", In Herbert Goldhor, ed. Proceedings of the 1963 Clinic on Library Applications of Data Processing. Champaign, Ill., University of Illinois Graduate School of Library Science, 1964, p. 18-36.

An interim (i.e., at its tab card stage) account by one of the pioneering institutions in printed book catalogs.

12) Jones, Bob, "The Compact Book Catalog -- by Photographic Process", Library Resources & Technical Services, vol. 8, no. 4, p. 366-369.

Photography of individual Library of Congress cards by Compos-O-List process.

13) Kilgour, Frederick G., "Costs of Library Catalog Cards Produced by Computer", Journal of Library Automation, vol. 1, no. 2, June 1968, p. 121-127.

Analysis of production costs of 79,831 cards by four variant techniques employing an IBM 870 Document Writer and an IBM 1401 Computer.

14) Kingery, Robert Ernest and Maurice F. Tauber, "Book Catalogs", New York, Scarecrow Press, 1963, 330p.

15) Lawrence Radiation Lab., University of California, Livermore. "Automated Acquisition, Cataloging, and Circulation in a Large Research Library", by Merle N. Boylan, Jr., and others. 1 May 1968. (UCRL-50406). 89p.

Their automated library procedures include production of separate printed catalogs for books and documents. Detailed description of automated book cataloging, p. 13-30; and of automated document cataloging, p. 30-47

16) Loeber, Thomas S., "OSL Master Book Catalog Distributed in September", PNLA Quarterly, vol. 32, no. 1, October 1967, p. 5-7.

Brief history of Oregon State Library project, using a computerized photo-composition process (Photon).

17) MacDonald, M. Ruth, "Book Catalogs and Card Catalogs", Library Resources & Technical Services, vol. 6, no. 3, Summer 1962, p. 217-222.

General rationale for adopting a book catalog.

18) Malinconico, Michael, "Optimization of Publication Schedules for an Automated Book Catalog", The LARC Reports, vol. 3, no. 3, Fall 1970, p. 81-85.

Problems of planning a cumulative book catalog for a collection as large as that of New York Public Library. Emphasis as noted in title.

19) Palmer, Foster M., "Conversion of Existing Records in Large Libraries; with special reference to the Widener Library Shelf-List", In The Brasenose Conference on the Au[illegible]ation of Libraries, ed. by John Harrison & Peter Laslett, Oxf[illegible], England, 1966, p. 57-83.

Describes pilot project begun in 1964, which was forward-looking at the time. System uses 1401 Autocoder and keypunch input. Mainly of historical value.

20) Parker, Ralph H., "Book Catalogs", Library Resources & Technical Services vol. 8, no. 4, Fall 1964, p. 344-348.

General discussion. Sees concept of a "main entry" disappearing.

21) Parr, Thomas, "Technical Cost Considerations in the Catalog Format of the Research Libraries", The LARC Reports, vol. 3, no. 3, Fall 1970, p. 73-76.

Basis for decision of New York Public Library to go to Photo-composed book catalogs rather than perpetuating card catalogs, including consideration given to an on-line catalog.

22) Perreault, Jean, "Computerized Cataloging: the computerized catalog at Florida Atlantic University", Library Resources & Technical Services, vol. 9, no. 1, Winter 1965, p. 20-34.

Description of the system: input, output, the print chain, retrieval aspects and work flow.

23) Pizer, Irwin H., "Book Catalogs versus Card Catalogs", Medical Library Association Bulletin, vol. 53, no. 2, April 1965, p. 225-238.

Good comparison.

24) Richmond, Phyllis A., "Book Catalogs as Supplements to Card Catalogs", Library Resources & Technical Services, vol. 8, no. 4, Fall 1964, p. 359-365.

Short-title (i.e., one line) printed catalog supplement to the regular card catalog.

25) Simonton, Wesley, "The Computerized Catalog: Possible, Feasible, Desirable?" Library Resources & Technical Services, vol. 8, no. 4, Fall 1964, p. 399-407.

Discussion of the technical questions relating to a computer-produced book catalog; i.e., descriptive cataloging, rules of entry, subject headings, filing, and administrative questions.